PATENT CLAIMS

1. A dual-band antenna (10) comprising a first linear periodic array of first individual antennas (14) for a first frequency band and a second linear periodic array of second individual antennas (15, 16) for a second frequency band, the period of the first linear periodic array being essentially twice as large as the period of the second linear periodic array and the second individual antennas (15, 16) being arranged alternately between the first and above the first individual antennas (14) and the first individual antennas (14) and second individual antennas (15, 16) being constructed as patch radiators, characterized in that the first and second individual antennas (14, 15, 16) in each case comprise a printed-circuit board (18, 22, 27) arranged in a rectangular, electrically conductive box (17, 21, 26) open to the top and a number of patch plates (19, 20; 23, 24, 25; 28, 29, 30) which are arranged at a distance above one another above the printed-circuit board (18, 22, 27) and in parallel with the printed circuit board (18, 22, 27).

2. The dual-band antenna as claimed in claim 1, characterized in that the patch plates (19, 20; 23, 24, 25; 28, 28, 30) of an individual antenna (14, 15, 16) are held in each case at a distance below one another and from the printed-circuit board (18, 22, 27) by means of electrically insulating spacing elements.

3. The dual-band antenna as claimed in either of claims 1 and 2, characterized in that in the case of the second individual antennas (15, 16) in each case three patch plates (23, 24, 25; 28, 29, 30) are arranged at a distance above one another, in that in the case of the first individual antennas (14) in each case two patch plates (19, 20) are arranged at a

distance above one another and in that in the case of the first individual antennas (14) in each case, instead of a third patch plate, a second individual antenna (16) with its box (21) is arranged at a distance above the top one of the two patch plates (19, 20).

4. The dual-band antenna as claimed in one of claims 1 to 3, characterized in that the first and second individual antennas (14, 15, 16) are arranged above a common base plate (12) extending in the longitudinal direction of the antenna.

5. The dual-band antenna as claimed in claim 4, characterized in that the base plate (12) is constructed as a reflector.

6. The dual-band antenna as claimed in one of claims 1 to 5, characterized in that the first individual antennas (14) are designed for covering the frequency range of 806-960 MHz and the second individual antennas (15, 16) are designed for covering the frequency range of 1710-2170 MHz.

7. The dual-band antenna as claimed in one of claims 1 to 6, characterized in that a total of N first individual antennas (14) and $2N \pm 1$ second individual antennas (15, 16) are arranged in the dual-band antenna (10) (N = integral number > 0).

8. The dual-band antenna as claimed in claim 7, characterized in that N = 7.

Key to figures

Figure 2

Schnitt A-A - Section A-A